217/782-2113

CONSTRUCTION PERMIT - REVISED

PERMITTEE

IBP, Inc.
Attn: Rechelle Hollowaty
800 Stevens Port Drive
Dakota Dunes, South Dakota 57049

Application No.: 00040053 I.D. No.: 161817AAA
Applicant's Designation: FLARE Date Received: July 9, 2002
Subject: Wastewater Treatment, Scrubber, and Flare
Date Issued: July 22, 2002
Location: Highway 92, Geneseo

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a lime silo with baghouse, one new anaerobic wastewater lagoon with a cover, a modification to two existing anaerobic wastewater lagoons which consists of a new cover for each lagoon, and a new scrubber and flare to control emissions from the three lagoons as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 Unit Specific Conditions

1.1 Unit: Three Anaerobic Wastewater Lagoons
Control: Scrubber and Flare

1.1.1 Description

The source has a wastewater treatment plant to treat wastewater generated at the beef processing complex. The wastewater treatment plant contains three anaerobic lagoons. The three anaerobic wastewater lagoons will install covers and vent to a common scrubber and flare control system.

1.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Three Anaerobic Wastewater Lagoons	Three Anaerobic Wastewater Lagoons Each with a Cover	Scrubber and Flare System

1.1.3 Applicability Provisions and Applicable Regulations

a. An “affected lagoon” for the purpose of these unit-specific conditions, is an emission unit as described in Conditions 1.1.1 and 1.1.2.

b. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm [35 IAC 214.301].

1.1.4 Non-Applicability of Regulations of Concern

None

1.1.5 Operational and Production Limits and Work Practices

a. Operation of the equipment being constructed and/or modified is allowed under this permit until final action is taken on the Clean Air Act Permit Program (CAAPP) application for this source, provided that such CAAPP application has been received and been deemed complete by the Illinois EPA. As result, the Permittee must still update the CAAPP application to include the aforementioned equipment but is not required to submit an application for a state operating permit in the interim.

b. Satisfactory completion of the emissions tests so as to demonstrate compliance with applicable emission limits is a prerequisite to issuance of an operating permit.

c. At all times, the Permittee shall, to the extent practicable, maintain and operate the lagoons, including associated air pollution capture and control equipment, in accordance with written operating procedures that provide for good air pollution control practice for minimizing emissions. At a minimum, these practices shall include:

i. The following provisions for operation of the scrubber:

A. Procedures for addition of scrubbant to the scrubber, including target rate of scrubbant addition.

B. Acceptable ranges of scrubber operating parameters.

ii. The following provisions for operation of the flare:

A. The flare shall be operated with a flame present at all times.

B. The presence of a flare pilot flame shall be monitored using a thermocouple or other comparable device to detect the presence of a flame.

C. If the pilot flame goes out, the flow of off-gases to the flare shall be discontinued until the pilot flame is restored.

iii. Provisions for periodic inspection of the capture system scrubber and flare.

1.1.6 Emission Limitations

a. Total combined emissions from the affected lagoons shall not exceed the following limits:

Pollutant	Emissions (Tons/Month)	(Tons/Year)
NO_x	3.8	18.8
CO	11.1	55.7
VOM	1.5	7.4
SO_2	3.3	16.6
H_2S	0.1	0.2

b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

c. This permit is issued based upon negligible emissions of particulate matter from the affected lagoons. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 tons/yr.

d. This permit is issued based on this source not being a major source pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). This determination is made based on information provided in the application by the Permittee. As a result, the limits of this permit are established to ensure that the construction and/or modification addressed in this construction permit does not constitute a new major source or major modification pursuant to these rules.

1.1.7 Testing Requirements

a. Within 180 days of initial startup, but no later than October 31, 2001, the H_2S emissions in the effluent from the cover (influent to the scrubber) and the H_2S emissions in the effluent of the scrubber shall be measured during conditions which are representative of summer operating conditions in terms of influent load to the control equipment. In the event the new anaerobic lagoon is not fully operational at the time of testing, testing may take place on the effluent from the covers to the scrubber/flare from the two existing lagoons and the effluent from the scrubber.

b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, and 40 CFR 61, Appendix B, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Hydrogen Sulfide	USEPA Method 15

1.1.8 Inspection Requirements

None

1.1.9 Recordkeeping Requirements

a. The Permittee shall maintain a copy of the written operating procedures, required by Condition 1.1.5(c), which procedures shall be reviewed at least annually and revised as needed.

b. The Permittee shall maintain an operating log for the control system, that at minimum, identifies periods of time when the system is not in operation, maintenance and repair activities, actual scrubbant addition rates, and changes to the nature of the additions, i.e., different amino solution purchased or change in the concentration to which it is being prepared.

c. The Permittee shall maintain records of the following items for the affected lagoons:

i. Usage of scrubbing agent, e.g., amino solution (gallons/month);

ii. Hours of operation for the scrubber and flare (hours/month and hours/year); and

iii. NO_x, CO, PM, SO_2, VOM and H_2S emissions (tons/month and tons/year).

1.1.10 Reporting Requirements

a. At least 30 days prior to the actual date of testing, a written test plan shall be submitted to the Compliance Section of the Division of Air Pollution Control for review. This plan shall describe the specific procedures for testing, including as a minimum:

i. The person(s) who will be performing sampling and analysis and their experience with similar tests.

ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the

operating parameters for the emission unit and any control equipment will be determined.

iii. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.

iv. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods.

v. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.

vi. Any proposed use of an alternative test method, such as use of an H_2S monitoring system with detailed justification. (Note: Use of an alternative method is subject to approval by the Illinois EPA.)

vii. The format and content of the Source Test Report.

b. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized and no later than 45 days from the date of testing. The Final Report shall include as a minimum:

i. A summary of results.

ii. General information.

iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.

iv. Detailed description of test conditions, including:

A. Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption;

B. Control equipment information, i.e., scrubbing agent, equipment condition and operating parameters during testing; and

C. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair.

v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

vi. An explanation of any discrepancies among individual tests or anomalous data.

c. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 60614

d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

1.1.11 Operational Flexibility/Anticipated Operating Scenarios

None

1.1.12 Compliance Procedures

Compliance with the emission limitations specified in condition 1.1.6 shall be determined from the following equation:

a. H_2S Emissions:

E = Emission rate* (lb/hr)

* As determined from the stack test required by condition 1.1.7 for H_2S

b. Emissions of NO_x, CO, VOM, and SO_2 shall be calculated using the following emission factors and formulas:

i. VOM Emissions:

E = (Biogas Flow Rate, scf/hr) x (Partial Vapor Density of VOC in the Biogas,

lb/scf) x [1-(Control Efficiency of Flare/100)]

ii. NO_x Emissions:

E_1 = (0.0641 lb NO_x/mmBtu) x (23.12 mmBtu/hr)

E_2 = (Biogas Flow Rate, scf/hr) x (Partial Vapor Density of NH_3 in the Biogas, lb/scf) x (14 lb N/17 lb NH_3) x (46 lb NO_2/14 lb N)

$E_T = E_1 + E_2$

iii. CO Emissions:

E = (0.5496 lb CO/mmBtu) x (23.12 mmBtu/hr)

iv. SO_2 Emissions:

E = (Biogas Flow Rate, scf/hr) x (Partial Vapor Density of SO_2 in the Biogas, lb/scf) x [1 - (Control Efficiency of Scrubber/100)] x (1 lb mole H_2S/34 lb H_2S) x (1 lb mole SO_2/1 lb mole H_2S) x (64 lb SO_2/1 lb mole SO_2)

2. This permit is issued based upon negligible emissions of particulate matter from the lime silo controlled by a baghouse. For this purpose, emissions shall not exceed nominal emission rates of 1.4 lb/hour and 0.1 tons/year.

3. A construction permit covers construction activity taking place on or after the date of issuance of the permit. Even though the issuance of this permit indicates that the Illinois EPA has found that the application for the subject equipment met 35 Ill. Adm. Code 201.155, the standards for issuance of a construction permit, this permit does not cover and in no way condones or approves any construction of the subject emission sources or air pollution control equipment which took place before the date of issuance of this permit.

4. This permit only becomes effective upon dismissal by the Pollution Control Board of the permit appeal filed by the Permittee of the previous permit issued by the Illinois EPA (PCB 01-88).

Please note that the Permittee should update their CAAPP application to include this equipment by submitting form 505-CAAPP - "Supplement to CAAPP Application" along with all other appropriate information.

It should be noted that this permit has been revised to allow additional time to operate under this construction permit.

If you have any questions on this, please call Jason Schnepp at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:jar

cc: Region 2
Dennis Brown, DLC